

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A paper feeder, for feeding a sheet of paper to a recording apparatus, comprising:

a hopper, for stacking a plurality of sheets of paper;

a paper feeding roller, which constitutes a part of a paper transporting passage;

a paper returner, placed in vicinity of an end portion of the hopper, wherein the paper returner is pivotable between a first position where the paper returner constitutes a part of the paper transporting passage, and a second position where the paper returner blocks the paper transporting passage; and

a separation pad, provided on a first face of the paper returner, the separation pad having a friction coefficient which is higher than a friction coefficient of the first face of the paper returner,

wherein the paper returner is placed at the first position so that a top sheet of paper in the hopper is abutted against the paper feeding roller, and is separated from other sheets of paper by the separation pad; wherein the paper returner is placed at the second position so that the first face of the paper returner returns sheets of paper, which are entered in the paper transporting passage together with the sheet of paper to be fed, to the hopper, and

wherein the hopper comprises a first portion that supports the plurality of sheets of paper in a stacking direction of the plurality of sheets of paper; and a second portion that supports the plurality of sheets of paper in a non-stacking direction of the plurality of sheets of paper,

an auxiliary roller,

wherein the paper feeding roller and the auxiliary roller are arranged in a widthwise direction of the sheet of paper;

wherein the first face of the paper returner abuts the top sheet of paper which is abutted against the paper feeding roller and the auxiliary roller, when the paper returner is placed in the first position; and

wherein the auxiliary roller is arranged, such that it contacts a center of one surface of the widthwise direction of the sheet of paper.

2. (canceled).

3. (original): The paper feeder as set forth in claim 1, wherein the first face of the paper returner prevents the sheets of paper in the hopper from entering the paper transporting passage, when the paper returner is placed in the second position.

4. (canceled).

5. (currently amended): The paper feeder as set forth in claim 21, wherein the paper feeding roller is arranged, such that it contacts only on one side of one surface of the widthwise direction of the sheet of paper.

6. (canceled).

7. (original): The paper feeder as set forth in claim 1, wherein the paper returner further comprises a distal end having a protrusion formed thereon.

8. (currently amended): A paper feeder, for feeding a sheet of paper to a recording apparatus, comprising:

a hopper, for stacking a plurality of sheets of paper;

a paper feeding roller, which constitutes a part of a paper transporting passage;

a paper returner, placed in a vicinity of an end portion of the hopper, wherein the paper returner is pivotable between a first position where the paper returner constitutes a part of the paper transporting passage, and a second position where the paper returner blocks the paper transporting passage;

a separation pad, provided on a first face of the paper returner, the separation pad having a friction coefficient which is higher than a friction coefficient of the first face of the paper returner,

wherein the paper returner is placed at the first position so that a top sheet of paper in the hopper is abutted against the paper feeding roller, and is separated from other sheets of paper by the separation pad,

wherein the paper returner is placed at the second position so that the first face of the paper returner returns sheets of paper, which are entered in the paper transporting passage together with the sheet of paper to be fed, to the hopper; and

an urging member, which urges the paper returner toward the second position,

wherein the paper feeding roller includes a first portion which urges the first face of the paper returner toward the first position, against an urging force of the urging member,

wherein the hopper comprises:

a first portion that supports the plurality of sheets of paper in a stacking direction of the plurality of sheets of paper; and

a second portion that supports the plurality of sheets of paper in a non-stacking direction of the plurality of sheets of paper,

an auxiliary roller,

wherein the paper feeding roller and the auxiliary roller are arranged in a widthwise direction of the sheet of paper;

wherein the first face of the paper returner abuts the top sheet of paper which is abutted against the paper feeding roller and the auxiliary roller, when the paper returner is placed in the first position; and

wherein the auxiliary roller is arranged, such that it contacts a center of one surface of the widthwise direction of the sheet of paper.

9. (currently amended): A paper feeder, for feeding a sheet of paper to a recording apparatus, comprising:

a hopper, for stacking a plurality of sheets of paper;

a paper feeding roller, which constitutes a part of a paper transporting passage;

a paper returner, placed in a vicinity of an end portion of the hopper, wherein the paper returner is pivotable between a first position where the paper returner constitutes a part of the paper transporting passage, and a second position where the paper returner blocks the paper transporting passage;

a separation pad, provided on a first face of the paper returner, the separation pad having a friction coefficient which is higher than a friction coefficient of the first face of the paper returner,

wherein the paper returner is placed at the first position so that a top sheet of paper in the hopper is abutted against the paper feeding roller, and is separated from other sheets of paper by the separation pad,

wherein the paper returner is placed at the second position so that the first face of the paper returner returns sheets of paper, which are entered in the paper transporting passage together with the sheet of paper to be fed, to the hopper; and

a cam mechanism, which moves the hopper to the paper feeding roller after the paper returner is placed in the first position,

wherein the hopper comprises:

a first portion that supports the plurality of sheets of paper in a stacking direction of the plurality of sheets of paper; and

a second portion that supports the plurality of sheets of paper in a non-stacking direction of the plurality of sheets of paper,

an auxiliary roller,

wherein the paper feeding roller and the auxiliary roller are arranged in a widthwise direction of the sheet of paper;

wherein the first face of the paper returner abuts the top sheet of paper which is abutted against the paper feeding roller and the auxiliary roller, when the paper returner is placed in the first position; and

wherein the auxiliary roller is arranged, such that it contacts a center of one surface of the widthwise direction of the sheet of paper.

10. (currently amended): A paper feeder, for feeding a sheet of paper to a recording apparatus, comprising:

a hopper, for stacking a plurality of sheets of paper;

a paper feeding roller, which constitutes a part of a paper transporting passage;

a paper returner, placed in a vicinity of an end portion of the hopper, wherein the paper returner is pivotable between a first position where the paper returner constitutes a part of the paper transporting passage, and a second position where the paper returner blocks the paper transporting passage;

a separation pad, provided on a first face of the paper returner, the separation pad having a friction coefficient which is higher than a friction coefficient of the first face of the paper returner,

wherein the paper returner is placed at the first position so that a top sheet of paper in the hopper is abutted against the paper feeding roller, and is separated from other sheets of paper by the separation pad,

wherein the paper returner is placed at the second position so that the first face of the paper returner returns sheets of paper, which are entered in the paper transporting passage together with the sheet of paper to be fed, to the hopper,

wherein the paper feeding roller is placed in the vicinity of one widthwise end of the paper transporting passage,

wherein the hopper is pivotable about one widthwise end portion thereof which is in the vicinity of the other widthwise end of the paper transporting passage, and

wherein the hopper comprises:

a first portion that supports the plurality of sheets of paper in a stacking direction of the plurality of sheets of paper; and

a second portion that supports the plurality of sheets of paper in a non-stacking direction of the plurality of sheets of paper,

an auxiliary roller,

wherein the paper feeding roller and the auxiliary roller are arranged in a widthwise direction of the sheet of paper;

wherein the first face of the paper returner abuts the top sheet of paper which is abutted against the paper feeding roller and the auxiliary roller, when the paper returner is placed in the first position; and

wherein the auxiliary roller is arranged, such that it contacts a center of one surface of the widthwise direction of the sheet of paper.

11. (currently amended): A paper feeder, comprising:

a hopper, for stacking a plurality of sheets of paper;

a paper feeding roller, which constitutes a part of a paper transporting passage;

a paper returner, placed in vicinity of an end portion of the hopper, wherein the paper returner is pivotable between a first position where the paper returner constitutes a part of the paper transporting passage, and a second position where the paper returner blocks the paper transporting passage; and

a separation pad, provided on a first face of the paper returner, the separation pad having a friction coefficient which is higher than a friction coefficient of the first face of the paper returner,

wherein the hopper comprises a first portion that supports the plurality of sheets of paper in a stacking direction of the plurality of sheets of paper; and a second portion that supports the plurality of sheets of paper in a non-stacking direction of the plurality of sheets of paper,

an auxiliary roller,

wherein the paper feeding roller and the auxiliary roller are arranged in a widthwise direction of the sheet of paper;

wherein the first face of the paper returner abuts the top sheet of paper which is abutted against the paper feeding roller and the auxiliary roller, when the paper returner is placed in the first position; and

wherein the auxiliary roller is arranged, such that it contacts a center of one surface of the widthwise direction of the sheet of paper.

12. (currently amended): A paper feeder, comprising:

a hopper, for stacking a plurality of sheets of paper;

a paper feeding roller, which constitutes a part of a paper transporting passage;

a paper returner, placed in a vicinity of an end portion of the hopper, wherein the paper returner is pivotable between a first position where the paper returner constitutes a part of the paper transporting passage, and a second position where the paper returner blocks the paper transporting passage;

a separation pad, provided on a first face of the paper returner, the separation pad having a friction coefficient which is higher than a friction coefficient of the first face of the paper returner; and

an urging member, which urges the paper returner toward the second position, wherein the paper feeding roller includes a first portion which urges the first face of the paper returner toward the first position, against an urging force of the urging member,

wherein the hopper comprises:

a first portion that supports the plurality of sheets of paper in a stacking direction of the plurality of sheets of paper; and

a second portion that supports the plurality of sheets of paper in a non-stacking direction of the plurality of sheets of paper,

an auxiliary roller,

wherein the paper feeding roller and the auxiliary roller are arranged in a widthwise direction of the sheet of paper; and

wherein the first face of the paper returner abuts the top sheet of paper which is abutted against the paper feeding roller and the auxiliary roller, when the paper returner is placed in the first position,

wherein the auxiliary roller is arranged, such that it contacts a center of one surface of the widthwise direction of the sheet of paper.

13. (currently amended): A paper feeder, comprising:

a hopper, for stacking a plurality of sheets of paper;

a paper feeding roller, which constitutes a part of a paper transporting passage;

a paper returner, placed in a vicinity of an end portion of the hopper, wherein the paper returner is pivotable between a first position where the paper returner constitutes a part of the paper transporting passage, and a second position where the paper returner blocks the paper transporting passage;

a separation pad, provided on a first face of the paper returner, the separation pad having a friction coefficient which is higher than a friction coefficient of the first face of the paper returner; and

a cam mechanism, which moves the hopper to the paper feeding roller after the paper returner is placed in the first position,

wherein the hopper comprises:

a first portion that supports the plurality of sheets of paper in a stacking direction of the plurality of sheets of paper; and

a second portion that supports the plurality of sheets of paper in a non-stacking direction of the plurality of sheets of paper,

an auxiliary roller,

wherein the paper feeding roller and the auxiliary roller are arranged in a widthwise direction of the sheet of paper;

wherein the first face of the paper returner abuts the top sheet of paper which is abutted against the paper feeding roller and the auxiliary roller, when the paper returner is placed in the first position; and

wherein the auxiliary roller is arranged, such that it contacts a center of one surface of the widthwise direction of the sheet of paper.